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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,769	04/09/2004	Erol Sancaktar	089498-0354(CIP)	1443

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Roetzel & Andress  
222 South Main Street  
Akron, OH 44308

EXAMINER

KING, BRADLEY T

ART UNIT PAPER NUMBER

3683

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/821,769

Applicant(s)

SANCAKTAR ET AL.

Examiner

Bradley T. King

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-20 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-20 and 27-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-5, and 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "and having a cross section having a substantially constant diameter". It is not clear from the claim language which element has the cross section having a substantially constant diameter.

Claim 7 recites "the rectangular cross section". There is insufficient antecedent basis for this limitation in the claims. This limitation also appears to contradict the limitations of parent claim 1 which define a cross section of substantially constant diameter. It is not clear how a rectangular cross section can have a "diameter".

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 9-20, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 6454251.

US 6454251 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 10 (figure 2c) twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. Note that a varied thickness is inherently formed when the saturated twisted or braided fibers are confined by cladding 1 and cured. US 6454251 further discloses using copper pipe as cladding which would provide an extremely smooth outer surface. While US# 6454251 fails to disclose the process limitations, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. Since the resulting product is identical to that disclosed by Taylor, the claims remain anticipated.

Regarding claims 9-11, 6454251 discloses glass fibers and epoxy resins.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 28-30, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the spring of US 6454251 is inherently predictable by the standard equations since it is a coil spring.

Claims 1-2 4-5, 8-20, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 2852424.

US 2852424 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 14 (note column 3, lines 70-75) twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows (since the fiber tows are saturated with resin, an outer layer of some degree of thickness inherently exists between the tows and the outer tube 12), wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. Note that a varied thickness is inherently formed when the saturated twisted or braided fibers are confined by outer tube 12 and cured. While US# 2852424 fails to disclose the process limitations, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. Since the resulting product is identical to that disclosed by Taylor, the claims remain anticipated.

Regarding claims 8-11, 2852424 discloses glass, rayon and epoxy resins.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 28-30, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the

spring of US 2852424 is inherently predictable by the standard equations since it is a coil spring.

Claims 12, 4-5, 9-20, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4473217.

US 4473217 discloses all the limitations of the instant claims including; a spring wire comprising a core that includes a plurality of fiber tows 3 twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. Note that the tape creates a "generally" uniform surface as broadly recited. While US# 4473217 fails to disclose the process limitations, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. Since the resulting product is identical to that disclosed by Taylor, the claims remain anticipated.

Regarding claim 9, see the abstract.

Regarding claims 10-11, US 4473217 discloses epoxy. Column 2, lines 56-58.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 28-30, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the

spring of US 4473217 is inherently predictable by the standard equations since it is a coil spring.

Claims 1-2, 4-5, 10-20, and 27-30 are rejected under 35 U.S.C. 102(b) as being anticipated by US# 4991827.

US 4991827 discloses all the limitations of the instant claims including; a spring wire comprising a core 10 that includes a plurality of fiber tows twisted about a longitudinal axis to create a contoured core surface; and an outer layer of resin that is substantially devoid of said fiber tows, wherein said outer layer has a thickness that varies along the longitudinal axis to form a generally uniform outer surface about the core. See figure 4, and column 4, lines 15-34. While US# 4991827 fails to disclose the process limitations, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. Since the resulting product is identical to that disclosed by Taylor, the claims remain anticipated.

Regarding claims 10-11, US 4991827 discloses epoxy. Column 5, lines 3-4.

Regarding claims 12-20, it is maintained that the recited method steps fail to further structurally define the claimed spring. See MPEP 2113.

Regarding claims 28-30, it is noted that the recited equations are standard equations used to describe coil springs. It is maintained that the performance of the

spring of US 4991827 is inherently predictable by the standard equations since it is a coil spring.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 6454251 in view of US# 6612556.

US 6454251 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 6454251 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 6454251 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.



Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 49918217 in view of US# 6612556.

US 49918217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 49918217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 49918217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 4473217 in view of US# 6612556.

US 4473217 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 4473217 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 4473217 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US # 2852424 in view of US# 6612556.

US 2852424 discloses all the limitations of the instant claims with exception to a rectangular cross-section. US 2852424 instead shows a circular cross-section. US# 6612556 discloses a similar composite spring and further teaches both circular and rectangular cross-sections (column 4, lines 50-55) with the rectangular cross-section increasing the stiffness of the spring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a rectangular cross-section as taught by US 6612556 in the spring of US 2852424 to provide an increased stiffness for the same area, thereby reducing size and providing an increased spring force for a given application.

### ***Response to Arguments***

Applicant's arguments filed 5/02/2005 have been fully considered but they are not persuasive. Regarding the process steps, it is noted that product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. See MPEP 2113. Since the resulting product is identical to that disclosed by the applied references, the claims remain anticipated. It is further maintained that the references either explicitly show a "substantially constant diameter" as broadly defined by the claims, or the feature is inherent to the cladding or coating process. As applicant has failed to provide sufficient evidence that the claimed process limitations result in non-obvious structural differences, it is maintained that the rejections are proper.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley T. King whose telephone number is (571) 272-7117. The examiner can normally be reached on 11:00-7:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3683

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BTK

*Robert A. Siconolfi* 7/25/05  
ROBERT A. SICONOLFI  
PATENT EXAMINER



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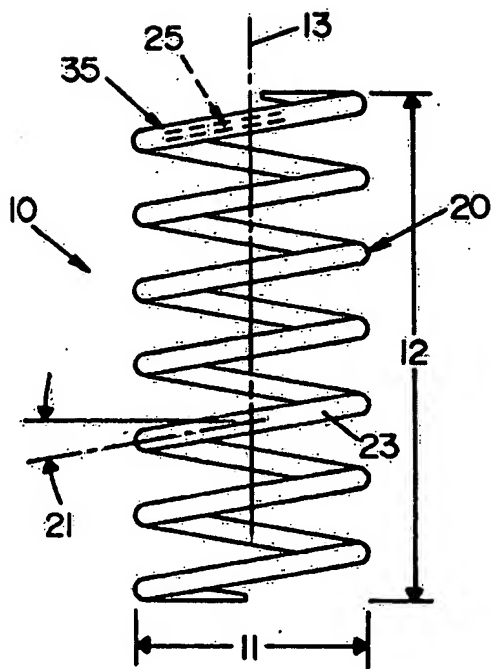


FIG. 1

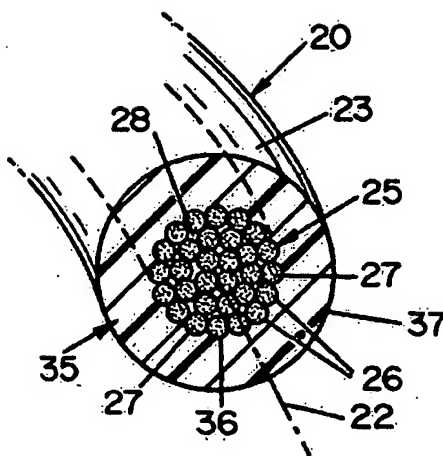


FIG. 2

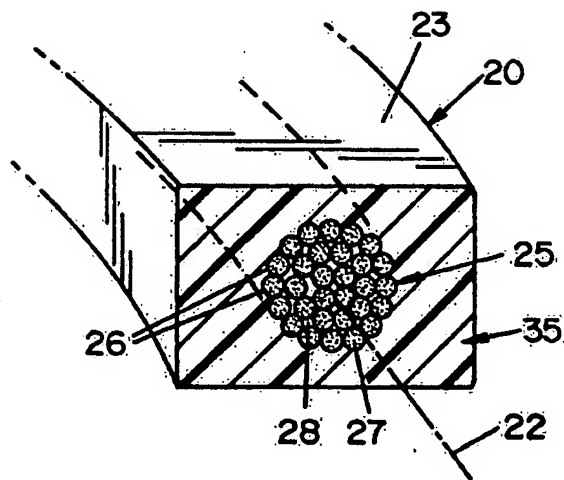


FIG. 3

Drawings from  
parent 09/871755

Approved  
LOK 7/20/25